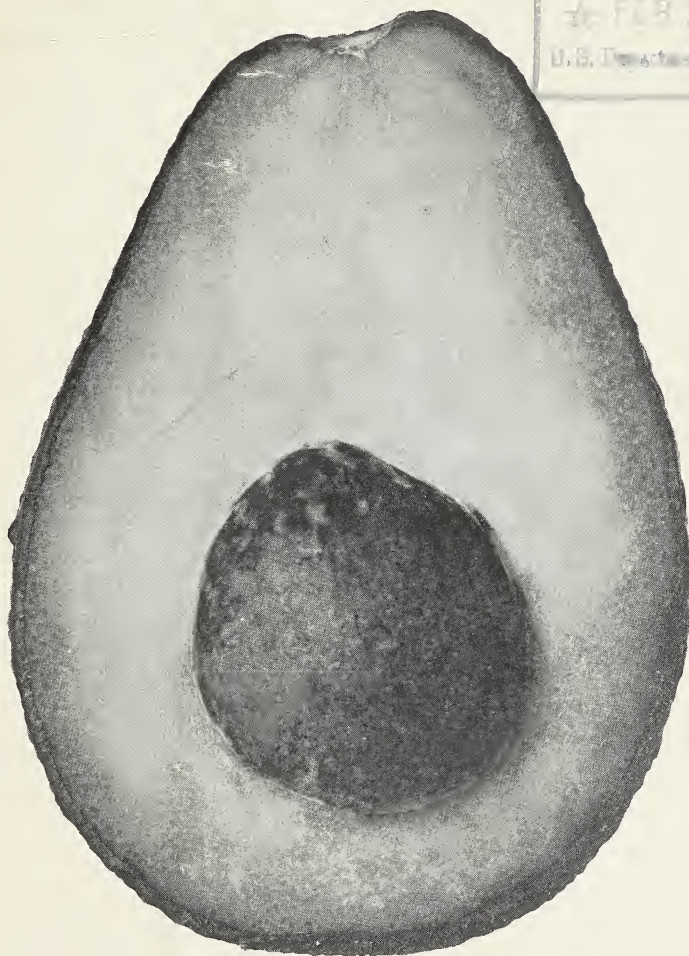
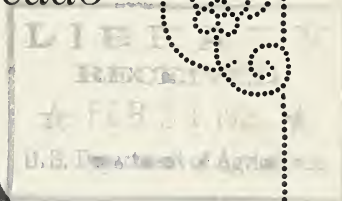


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The Commercial Avocado
IN CALIFORNIA
1921-1922



FRUIT OF THE QUEEN VARIETY

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Sale of Commercial Avocados

A majority of the Active Members of the California Avocado Association have signed a contract with the American Fruit Growers Incorporated, whereby they give to this Corporation the exclusive sale of their crop, under certain conditions.

This is one of the wisest actions taken by this association. Now the Public will judge each variety, and on its judgment, will depend what the Grower of the Future shall plant. There are many varieties in California that are of enough importance to be classed as GOOD. All these should go to the consumer, on equal terms, for his opinion. That opinion is beyond petty spite and jealousy. From that opinion there can be no appeal.

COMMERCIAL FRUIT SHOULD HAVE, IN ORDER OF IMPORTANCE

- 1st.—Shipping and keeping qualities.
- 2nd.—Pleasing flavor.
- 3rd.—Medium Oil Contents.
- 4th.—Good appearance as to skin and flesh.
- 5th.—Small Seed.
- 6th.—Medium size.

SHIPPING AND KEEPING QUALITIES

No matter what other qualities an Avocado may have, unless it can stand shipment and hold a reasonable length of time on arrival at destination, it is worthless as a commercial fruit. This has proven true of all fruits.

FLAVOR

If the public takes up the Avocado as a daily food, it will be because the majority of the public like it, its food value will be of secondary importance.

OIL CONTENTS

Oil contents has been a great "Talking Point," especially when selling nursery stock to planters. Will the Consumer give it equal importance? I doubt it. It is preferable to have a fruit with medium oil contents that is a good keeper, to one with a high oil contents that is a poor keeper.

APPEARANCE

Appearance is a great factor in selling well known fruits, much more will it influence the sale of a comparatively unknown fruit, such as the Avocado.

SIZE OF SEED

No variety should have a seed that averages over 20%, less if possible.

SIZE OF FRUIT

Medium sized fruit are best, having as little range as possible. They pack and serve better.

KEEPING QUALITIES OF THE AVOCADO

All Avocados will ship while hard but they soon soften and if held, become rancid, and spoil. THIS IS THE WEAK PART OF THE AVOCADO BUSINESS. With the market for Avocados undeveloped, the keeping qualities of the Avocado become of vital importance. That there is a difference as to length of time the different varieties will hold in good condition after once becoming soft, is known to a few Growers but it is a point that has been entirely overlooked by many. It will not be overlooked by the Retailer and Consumer.

I have been carrying on experiments for eighteen months with the following varieties as to their keeping after once becoming soft enough to eat: Linda, Queen, Knight, Kist, Dickinson, Sharpless, Spinks, Fuerte and Puebla. With all but the last, I have experimented with fruit from two years.

The keeping time for each variety is for sound fruit and is the limit as to what the Retailer and Consumer can expect. Individual fruit of all varieties often went beyond the crop limit.

KEEPING LIMIT OF SOFT AVOCADOS, HOUSE TEMPERATURE

Variety	Crop Limit	A Few	Individual Fruit
Linda	5 days.....	50% 7 days	14 days
Queen	3 days.....	25 % 5 days	7 days
Knight	2 days.....	30% 3 days	5 days
Kist	2 days.....	30% 3 days	5 days
Dickinson	2 days.....	20% 3 days	5 days
Sharpless	2 days.....	30% 3 days	5 days
Spinks	1 day	30% 2 days	5 days
Fuerte	1 day	40% 2 days	5 days
Puebla	24 hours.....	36 hours.	

The "Keeping Time" of the Linda is nearly equal to the combined "Keeping Time" of the "Approved List of Five." At the "Avocado Dinner" at the Ambassador Hotel in Oct. 1921, there were served 50 pounds of Linda Avocado that had been soft for from 7 to 10 days, and on exhibit during all that time.

Among the many varieties that I have not tested as to keeping qualities, probably there are some that would make an excellent showing. .

QUALITIES THAT CAUSE POOR KEEPING

High Oil Contents, Porous Skin and a Loose Seed.

The Skin or Shell being of the same make-up, and seed tight, the higher the Oil Contents, the Poorer Keeper.

The greater part of True Guatemalan Avocados have a woody, fibrous center to the skin. The Mexican Thick-Skins seldom, if ever do. All are classed under the head of "Guatemala Type."

The only record of importation of True Guatemalans are those introduced by myself in 1914 and since by Wilson Popence for account of the U. S. Dept. of Agriculture in 1916 and 1917.

TREES PRODUCING COMMERCIAL AVOCADOS

Should be Frost Resisting, Precocious and Annual Fruiting, Medium to Small in size, easily propagated.

FROST RESISTANCE

Hardiness adds safety and extends the area fitted to the planting of Avocados.

PRECOCIOUS AND ANNUAL FRUITERS

Early fruiting, if not injurious to the tree, is to be desired. Annual Fruiting adds stability to the business both from the growers and distributors standpoint.

SIZE OF TREE

Avocados grow too large for orchard trees. A dwarf tree is needed.

EASE OF PROPAGATION

No variety will prove a success that is difficult to propagate. The combined influence of all nursery men will be against such a variety.

Some varieties have one or more qualifications, others other good points but none have all the needed qualities to make an ideal Commercial Fruit and Tree.

GOOD AND BAD QUALITIES OF SEVERAL VARITIES

Linda Tree	True Guatemalan	Linda Fruit
1st—Healthy, vigorous, bright foliage.	1st—Greatest keeper known.	
2nd—Winds and twists, inclined to sprawl. Should be pruned back below.	2nd—Flavor good.	
3rd—Precocious, heavy fruiter.	3rd—Appearance fine. Purple, elliptical.	
4th—Easy to propagate.	4th—When cropping heavily, from 16 to 24 ounces. When light crop, from 24 to 50 each.	
5th—Hardy, will stand 28 first year.	5th—Seed medium to small. Tight in cavity.	
Will withstand about one degree more each year for several years.	6th—Oil contents 13 to 16%.	
	7th—Matures from April to Nov.	
Queen Tree	True Guatemalan	Queen Fruit
1st—Healthy, vigorous.	1st—Fine keeper, only excelled by Linda.	
2nd—Upright grower.	2nd—Flavor is very good.	
3rd—Precocious and consistent fruiter.	3rd—Rough exterior, flesh beautiful. None more so.	
4th—Easy to propagate.	4th—Weight averages 16 to 20 ounces.	
5th—Hardy as the Linda.	5th—Seed medium to small. Tight in cavity.	
	6th—Oil contents 16 to 18%.	
	7th—Shape, pyriform.	
	8th—Matures summer.	
Knight Tree	True Guatemalan	Knight Fruit
1st—Healthy, vigorous, very beautiful foliage.	1st—Medium good keeper.	
2nd—Upright grower.	2nd—Flavor very fine.	
3rd—Not as precocious as Linda or Queen.	3rd—Appearance good, bright green.	
4th—Very easy to propagate.	4th—Weight 12 to 24 ounces.	
5th—Hardy as Linda or Queen.	5th—Seed medium, tight in cavity.	
	6th—Oil contents 20 to 25%.	
	7th—Shape round.	
	8th—Matures late summer and early fall.	
Kist Tree	True Guatemalan	Kist Fruit
1st—Healthy, vigorous.	1st—Medium good keeper.	
2nd—Upright in growth.	2nd—Flavor very good.	
3rd—Precocious and good fruiter.	3rd—Appearance good, green, round.	
4th—Easy to propagate.	4th—Weight from 12 to 20 ounces.	
5th—Hardy as Linda or Queen.	5th—Seed medium to large, tight in cavity.	
	6th—Oil contents 14 to 20%.	
	7th—Matures spring, early summer.	

Dickinson Tree Origin Unknown, Probably Guatemala Dickinson Fruit

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|-------------------------------------|--|
| 1st—Healthy, vigorous. | 1st—Medium keeper. |
| 2nd—Upright grower. | 2nd—Flavor very good. |
| 3rd—Precocious and heavy fruiter. | 3rd—Appearance uncertain, from beautiful to insignificant. Purple, pyriform. |
| 4th—Easy to propagate. | 4th—Weight from 12 to 32 ounces. |
| 5th—Not as hardy as Linda or Queen. | 5th—Seed medium, tight in cavity. |
| | 6th—Oil contents from 12 to 16%. |
| | 7th—Matures in summer. |

Note—Flesh at times becomes of pink color and of bitter taste.

Sharpless Tree Mexican Thick Skin Sharpless Fruit

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| 1st—Healthy, upright. | 1st—Medium keeper. |
| 2nd—Fairly precocious, good fruiter. | 2nd—Flavor very good. |
| 3rd—Very hard to propagate. | 3rd—Outside appearance good, purple, pyriform. |
| 4th—More hardy than Dickinson but not as hardy as Linda or Queen. | 4th—Weight 16 to 20 ounces. |
| | 5th—Seed medium, tight in cavity. |
| | 6th—Oil contents about 18%. |
| | 7th—Fruits summer, but holds on until fall. |

Spinks Tree Mexican Thick Skin Spinks Fruit

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| 1st—Healthy, vigorous, strong, upright. | 1st—Rather poor keeper. |
| 2nd—Precocious and heavy fruiter. | 2nd—Flavor is very good. |
| 3rd—Easy to propagate. | 3rd—Very beautiful fruit, purple, pyriform. |
| 4th—As hardy as Linda or Queen. | 4th—Weight 14 to 24 ounces. |
| Note—Skin at times cracks on fruit still hanging on tree. | 5th—Seed large, sometimes loose in cavity. |
| | 6th—Oil contents about 18%. |
| | 7th—Matures summer. |

Fuerte Tree Fuerte Fruit
Supposed Hybrid Between Mexican Thin and Thick Skins.

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|---|---|
| 1st—Healthy, vigorous, strong grower. Unless pruned below, will sprawl. | 1st—Poor keepers. |
| 2nd—60% are precocious and good fruiter. 40% late fruiter or drones, too early to decide which. | 2nd—Flavor is of the best. |
| 3rd—Easy to propagate. | 3rd—Appearance poor, green, pyriform |
| 4th—Very hardy, more so than Linda or Queen. | 4th—Weight 12 to 16 ounces. |
| Note—Skin at times cracks on fruit still hanging on tree. | 5th—Seed 16% generally tight in cavity, not always. |
| | 6th—Oil contents from 25 to 30%. |
| | 7th—Matures winter. |

PUEBLA VARIETY is a Mexican Thin-Skin, pure and simple, and as such can not be considered a commercial fruit.

Judging by experience with otherfruits, we may expect that as our Avocado Orchards get older, the fruit will gradually become smaller, dropping from 20 to 30% of their early weight. Our trees will get so very hardy that no "freeze" will affect them. I believe the fruit will improve in quality and flavor. My experience from living many years in Mexico, Central and South America is that the older trees produce the best fruit.

Physical Analysis Whole Fruit						Analysis of Edible Portion					
Lab.		Flesh					Crude N-free				
No.	Variety	wt. grams	Pit per ct.	Skin per ct.	Ed. Por. per ct.	Water per ct.	Protein per ct.	Fat per ct.	Ash per ct.	Fiber per ct.	Extract per ct.
3742	Queen	663	10.26	18.89	70.85	73.80	2.21	16.35	1.63	2.83	3.18
3744	Knight	570	12.21	14.74	73.05	71.03		23.31			
3745	Linda	438	12.56	15.06	72.38	79.83		13.34			
3746	Kist	456	17.54	13.81	68.65	76.84	1.51	12.16	1.36	4.12	4.01
3746a	Kist	456	17.54	13.81	68.65	77.72		15.50			
3747	Kist	478	17.90	10.30	71.80	74.71	2.41	14.92	1.47	1.98	4.51

NURSERY STOCK FOR SALE

I will not grow or sell any variety of Avocado that I can not consistently recommend. There is more than money in it for me. With time and experience, opinions change, they should.

I have trees of the following varieties for sale.

Fuerte for Winter

Queen for Summer

Kist for Spring and early summer.

Knight for late summer and fall

Sharpless (a few) late summer and fall

Spinks (a few) for summer.

Linda for spring, summer and fall.

Prices on application.

E. E. KNIGHT

AVOCADO PLANTER AND NURSERYMAN

PHONE, PLACENTIA 24 R 1

YORBA LINDA, CALIFORNIA

TOP-WORKING AVOCADO TREES TO BETTER VARIETIES

Many systems of top-working have been tried, and several are still advocated, but probably 95% of all large avocado trees that have been worked over to date, have not given results.

Too little has been known as to the best way to do the work. Too much has been left to the care of the owner after the budder has placed the buds or grafts. Successful top-working of Avocado Trees can only be done by one who has given it much more study than the ordinary grower.

There are many avocado trees that should be grafted this year to better varieties. The sooner they are top-worked, the quicker returns will be received. Every year seed and seedling fruit will be of less value.

Budding is not practical for large trees and should be used only when bark-grafting has failed. In order to bud large trees the big branches have to be cut off and new shoots grown, in to which the buds may be placed. This makes a double joint which is more liable to split off.

Grafting by splitting the trunk or large limbs has not given results.

I have been experimenting for several years with "bark-grafting" the avocado and have developed a system that I feel safe in guaranteeing results. Guarantee value received to the owner of the orchard and guarantee pay for my work and knowledge. I find that the only way to get results satisfactory to all parties, is to take entire charge of the care of the graft and the cutting back of the tree. Leaving to the owner the irrigations needed and the shading of the graft after the tree has been cut back.

As I have to make several trips in order to place the graft and give it the needed care later, I can not work over less than 50 trees in one orchard. In lots of over 100 trees, the price will be 20% less than for the same class of trees in lots of 50-100. The price in all cases will be according to size and condition of trees.

ONE CHARGE ONLY. NO EXTRAS. NO ADVANCE PAYMENT. PAY WHEN GRAFT HAS HEALED IN AND TOP HAS BEEN CUT BACK.

A few branches below the graft are left for owner to cut off at a later date.

When possible the new top should be grown from one graft placed in the trunk of the tree. In this way a much more symmetrical top will be formed than by working out on the ends of the branches. In some cases this can not be done and several grafts are necessary.

I will work to any variety that gives a good graft.

ORCHARDS INSPECTED AND ADVICE GIVEN.

E. E. KNIGHT

Avocado Planter and Nurseryman

(Phone: Placentia 24 R1)

Yorba Linda, California.

Road Map

